(No Model.)

H. M. QUACKENBUSH.

SPRING AIR GUN.

No. 302,283. Patented July 22, 1884.

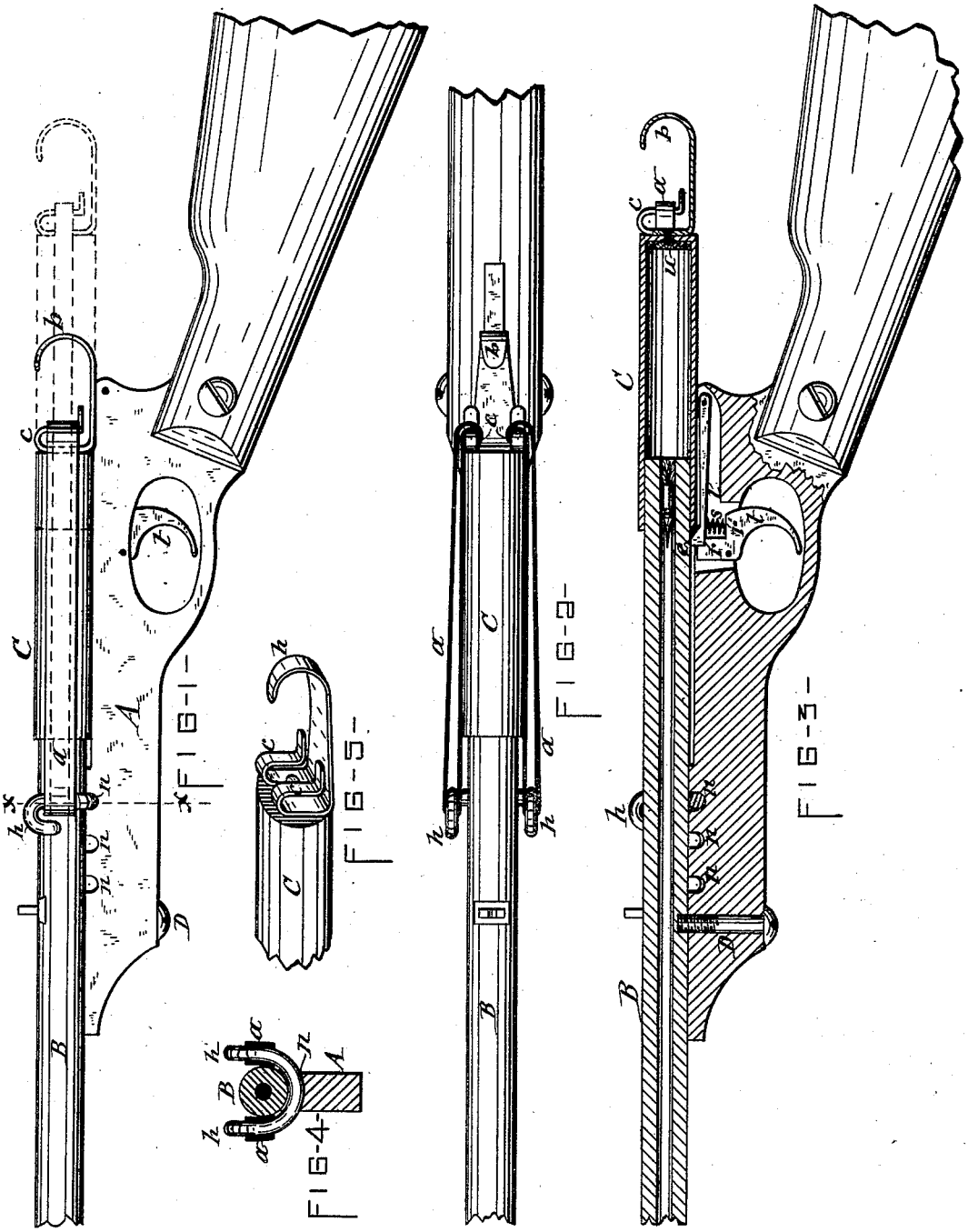

FIG 1

FIG 5

FIG 4

FIG 2

FIG 3

ATTEST—

William E. Raymond

E. Brandis

INVENTOR—

Henry M. Quackenbush

per Duell, Lass & Hay

Atty's

UNITED STATES PATENT OFFICE.

HENRY M. QUACKENBUSH, OF HERKIMER, NEW YORK.

SPRING AIR-GUN.

SPECIFICATION forming part of Letters Patent No. 302,283, dated July 22, 1884.

Application filed March 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. QUACKENBUSH, of Herkimer, in the county of Herkimer, in the State of New York, have invented new and useful Improvements in Spring Air-Guns, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in improved means for obtaining the requisite air-pressure for propelling from the barrel of a gun the projectile or missile, all as hereinafter more fully described, and specifically set forth in the claims.

The invention is fully illustrated in the annexed drawings, wherein Figure 1 is a side view of my improved spring air-gun. Fig. 2 is a top plan view of the same. Fig. 3 is a longitudinal section of the same. Fig. 4 is a transverse section on the line *x x* in Fig. 1, and Fig. 5 is a perspective view of the rear end of the air-compressing cylinder.

Similar letters of reference indicate corresponding parts.

A represents the stock of the gun, and B the barrel secured thereto by a bolt, D, as shown in Figs. 1 and 3 of the drawings.

C represents a cylinder adapted to slide over the rear end of the barrel and fitted air-tight thereto, the rear end of the cylinder being closed and provided on its inner face with a cushion, *u*, of leather or other suitable material, to receive the concussion incident to the collision of the same with the end of the barrel, as hereinafter explained.

To the rear end of the cylinder I connect a handle, *b*, which is formed in one piece, with two hooks, *c c*.

The forward end of the stock A is provided with two or more notches, *n*, on the side adjacent to the barrel, and in one of said notches is detachably secured a duplex hook, *h*, which passes under the barrel and rises on opposite sides thereof. On the hooks *h* and *c*, at opposite sides of the barrel, are attached elastic bands *a*, which serve as springs for impelling the cylinder C.

In loading the gun, the cylinder is withdrawn from the end of the barrel and the missile introduced in the bore, which is extended through the rear end of the barrel. When the cylinder is withdrawn, as aforesaid, the forward end thereof encounters a hook, *e*, on the end of a latch, *l*, pivoted to the stock A, as illustrated in Fig. 3 of the drawings, said hook being held in engagement with the end of the cylinder C by means of the trigger *t*, which has two shoulders, *r* and *r'*. A spring, *s*, interposed between the shoulder *r'* and latch *l*, normally carries the latch into engagement with the cylinder, as aforesaid, and the shoulder *r* of the trigger *t* engages the end of the latch *l* and retains the same into its aforesaid engagement. By pulling on the trigger the latch *l* becomes released from the shoulder *r*, and thus allows the cylinder to be impelled toward the end of the barrel by means of the springs or elastic bands *a a*. In the approach of the cylinder toward the barrel the air contained in the cylinder is compressed and caused to exert its force on the missile introduced in the barrel, and thereby projects the same from the barrel. The force of the cylinder can be adjusted by shifting the hooks *h* from one notch *n* to another notch, so as to produce greater or less tension on the elastic bands.

It will thus be observed that by my improvement I obtain a most efficient, simple, and comparatively inexpensive spring air-gun.

What I claim as my invention is—

1. In a spring air-gun, the combination of a stationary piston and movable cylinder for compressing the air, and a spring or springs for impelling the cylinder, substantially as set forth.

2. In a spring air-gun, the combination, with the barrel having its bore extended through the rear end thereof, of a cylinder sliding telescopically on said portion of the barrel, and having its rear end closed, a spring or springs drawing the cylinder toward the barrel, and a latch holding the cylinder retracted from the barrel, substantially as set forth and shown.

3. In combination with the barrel and air-compressing cylinder sliding over the end of the barrel, elastic bands connected to the aforesaid parts for impelling the cylinder, substantially as described and shown.

4. In combination with the barrel B, sliding cylinder C, elastic bands *a*, and hooks *h*, the stock A, provided with two or more notches, *n*, for the attachment of said hooks, substantially as described and shown.

5. In combination with the barrel B, sliding cylinder C, and elastic bands *a a*, the handle *b*, attached to the cylinder, and formed in one piece with the hooks *c c*, substantially as described and shown.

6. In combination with the barrel B, a spring-actuated cylinder, C, latch *l*, provided with a hook, *e*, the trigger *t*, provided with shoulders *r* and *r'*, and a spring, *s*, interposed between the shoulder *r'* and latch *l*, substantially as shown and described.

7. In combination with the barrel B, a spring-actuated cylinder, C, sliding telescopically on the end of the barrel, and the cushion *u*, applied to the inner face of the cylinder-head, substantially as and for the purposes set forth.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 15th day of March, 1884.

HENRY M. QUACKENBUSH. [L. S.]

Witnesses:
FREDERICK H. GIBBS,
C. H. DUELL.